REMARKS

Reconsideration of the above identified application in view of the preceding amendments and following remarks is respectfully requested. Claims 1-20 are pending in this application.

In the Office Action, it was indicated that two references were not considered because they were missing from the Information Disclosure Statement. Applicant's representative will file a Supplemental Information Disclosure Statement shortly to remedy this clerical error.

In the Office Action, Claims 1, 2, 4, 5 and 11-20 were rejected under 35 U.S.C. §102(a) over U.S. Patent No. 6,412,271 to Maker et al. The Examiner's grounds for rejection are herewith traversed, and reconsideration is respectfully requested.

Maker et al. disclose a fuel control system for a pump 28 in Figure 5 and the associated description at column 5, lines 1-40. The fuel control system has a metering valve 42 to regulate a flow of fuel to supply. A piston control chamber 25 for the pump 28 is supplied by an arrangement. In the arrangement, there is a spill valve 43 that has a servo flow chamber 46 defined by a control element 45. The servo flow chamber 46 positions the pump 28 by holding a pressure differential across the metering valve 42. As the Examiner noted in the outstanding Office Action, the control element 45 moves to vary an orifice 44, thereby varying the high pressure servo flow. As a result of the orifice 44 varying, the spill return flow varies. However, Maker et al. do not regulate the spill return flow to a substantially constant level. Rather, the control element 45 can reduce or increase the spill flow depending upon the conditions (see col. 5, lines 24-36). Thus, the control elements 45 and orifice 44 function to only regulate the spill flow to optimize performance instead of maintaining the spill flow at a substantially constant level.

In contrast, Claim 1 recites a fuel metering unit for controlling a variable displacement pump including a metering valve in fluid communication with the pump for metering an output of the variable displacement pump, a flow line for creating a spill return flow from an output of the pump, a pressure regulator in fluid communication with the flow line for receiving the spill return flow and a control valve for regulating the spill return flow to a substantially constant small level to prevent excessive heat generation during recirculation by setting a displacement of the pump. Consequently, the spill return flow is regulated to a substantially constant small level. Although Maker et al. suggest varying an orifice to change spill flow, Maker et al. do not disclose or suggest such a structural configuration for regulating the spill return flow to a substantially constant level. Accordingly, Claim 1 and each of the remaining claims depending therefrom distinguish the subject invention from Maker et al.

With respect to Claim 11, Maker et al. discloses a fuel control system that has a servo flow chamber 46 that positions the pump 28 by holding a pressure differential across the metering valve 42. Maker et al. does not regulate the spill return flow so the spill return flow is substantially constant. In contrast, Claim 11 recites a fuel metering unit for controlling a variable displacement pump including first means in fluid communication with the pump for metering an output of the pump, second means in fluid communication with the first means to create a bypass flow for responding to transients, and third means in fluid communication with the second means and the pump for regulating the bypass flow so bypass flow is substantially constant by variably setting a displacement of the variable displacement pump. Maker et al. do not disclose or suggest such a structural configuration. Accordingly, Claim 11 and each of the claims depending therefrom distinguish over Maker et al.

With respect to Claim 17, Claim 17 recites a method for maintaining a constant

spill return flow in a fuel metering unit that provides fuel to an engine. The method includes the steps of metering an output of a variable displacement pump, creating a spill return flow from the output of the variable displacement pump to allow for quick response when additional fuel is required by the engine, regulating the output of the pump with a regulator based upon the spill return flow, regulating an output of the first regulator with a control valve to maintain the spill return flow substantially constant and adjusting a displacement of the pump based upon an output of the control valve. Maker et al. do not disclose or suggest such a method. Accordingly, Claim 17 and each of the claims depending therefrom distinguish over Maker et al. In view of the above, withdrawal of the rejection under 35 U.S.C. §102(a) over Maker et al. is respectfully requested.

In the Office Action, Claims 1, 2 and 17-20 were rejected under 35 U.S.C. §102(a) over U.S. Patent No. 5,715,674 to Reuter et al. The Examiner's grounds for rejection are herewith traversed, and reconsideration is respectfully requested.

Reuter et al. disclose a control system 100 for a pump 104. The control system 100 has a metering valve 136 that is regulated by a pump control valve 208. The pump control valve 208 of Reuter et al. regulates the metering valve but it does not regulate the spill return flow which is allowed to vary (see col. 3, lines 66-67). The bypass flow is small and constant only during steady-state conditions (see col. 5, lines 40-53).

In contrast, Claim 1 recites, *inter alia*, a fuel metering unit including a control valve for regulating the spill return flow to a substantially constant small level. Consequently, the spill return flow is regulated to a substantially constant level. Reuter et al. do not disclose or suggest such a structural configuration of regulating the spill flow to a substantially constant level. Accordingly, Claim 1 and each of the claims depending therefrom distinguish the subject invention from Reuter et al.

Turning to Claim 17, a method recites, *inter alia*, regulating an output of the first

regulator with a control valve to maintain the spill return flow substantially constant and adjusting a displacement of the pump based upon an output of the control valve. Reuter et al. do not disclose or suggest such a step of regulating the output of the first regulator with a control valve to maintain the spill return flow substantially constant. Accordingly, Claim 17 and each of the claims depending therefrom distinguish over Reuter et al. In view of the above, withdrawal of the rejection under 35 U.S.C. §102(a) over Reuter et al. is respectfully requested.

In the Office Action, Claim 3 was rejected under 35 U.S.C. § 103 (a) over Maker et al. or Reuter et al.

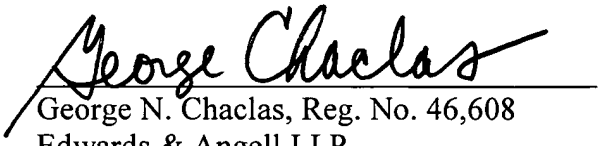
It is respectfully submitted that Maker et al. and Reuter et al. in combination do not overcome the deficiencies as noted above with respect to Claim 1. In particular, neither Maker et al. nor Reuter et al. disclose or suggest, either alone or in combination, in whole or in part, a fuel metering unit including, *inter alia,* a control valve for regulating the spill return flow to a substantially constant small level as recited in Claim 1. Accordingly, Claim 3, by virtue of its dependency from Claim 1, is not rendered obvious by the combination of references cited by the Examiner for at least this reason and withdrawal of the rejection under 35 U.S.C. §103 (a) is respectfully requested.

Any additional fees or overpayments due as a result of filing the present paper may be applied to Deposit Account No. 04-1105. It is respectfully submitted that all of the claims in this application, namely Claims 1-20, are in condition for allowance, and such action is earnestly solicited.

If after reviewing this amendment, the Examiner believes that a telephone interview would facilitate the resolution of any remaining matters the undersigned attorney may be contacted at the number set forth herein below.

Respectfully submitted,

Date: March 21, 2005



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